Dos and Don’ts of Title V Permitting

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Three Major Areas of Title V Permitting

- Emissions Inventory and Regulatory Assessment
- Monitoring Requirements
- Maintaining Compliance

Emissions Inventory and Regulatory Assessment

Emissions Inventory

- Comprehensive emissions inventory:
  - Keep current updated emissions inventory
  - Identify all emissions units
  - Emissions inventory is continually changing
  - Could effect facility/emissions unit status

Regulatory Assessment

- Review of regulatory assessment:
  - Changes in operations:
    - Solvent-based versus water-based coatings
    - HAP versus non-HAP solvents/thinners
  - Changes to equipment:
    - Modify paint spray booth
    - Modify control equipment
  - Changes in regulations

NSPS for Storage Tanks

- 40 CFR 60, Subpart Kb
- Applicability—after June 23, 1984
- Final rule dated October 15, 2003, exempts storage vessels with a storage capacity:
  - < 75 m^3 (19,800 gallons)
  - > 151 m^3 with vapor pressure less than 3.5 kPa

Monitoring Requirements

Monitoring Requirements

- Title V permit requirements:
  - Emission and/or usage limits
  - ***Monitoring***
  - Recordkeeping
  - Reporting

Monitoring Requirements

- Applies to Title V, synthetic minor, and true minor permits
- Generally includes some discretion on the part of the state agency/permit writer

Monitoring Requirements

- Review every condition of draft permit
- Review every condition of every version of draft permit
- “Don’t be afraid to suggest alternate monitoring requirement”
- Alternative monitoring can be negotiated even if monitoring is regulatory requirement

Monitoring Requirements

- Is there a basis?
- What are we monitoring?
  - Identify the monitored parameter
  - E.g., fuel flow versus hours of operation
- How often are we monitoring?
  - Make sure the frequency is reasonable
  - Daily/weekly/monthly

Monitoring Requirements for Title V Permits

- EPA issued a Final Rule addressing monitoring requirements for Title V permits effective February, 23, 2004
- Overall objective is to provide a more consistent basis for establishing monitoring requirements for Title V permits

Monitoring/Recordkeeping
Case Studies

Case Study #1

- Emissions Unit—Abrasive blasting booth with baghouse
- Regulatory Emission Limit—Visible emissions shall not equal or exceed 20 percent

  (Note—This case could apply to any source subject to VE standard [i.e., paint spray booth, boiler, etc.])

DOOR 2

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

07 – (AB001) **Abrasive blasting unit**

Description: The abrasive blasting unit steel shot to blast railcars prior to surface coating. A baghouse with a control efficiency of 99.5% for particulate matter.
Construction commenced: 1987

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations.

1. **Operating Limitations:**
Maximum steel shot usages shall not exceed 300 lbs/hour and 600 tons/year.

2. **Emission Limitations:**
   a) Visible emissions shall not equal or exceed 20 percent opacity, as determined by using Reference Method 9, Appendix A, 40 CFR 60.
   b) Hourly particulate emissions for each emission point as measure by Reference Method 5, Appendix A, 40 CFR 60 averaged over three hours shall not exceed the limit calculated by the following formula. $E = 3.59P^{0.62}$

4. **Specific Monitoring Requirements:**
To provide reasonable assurance that the visible emission limitations are being met, the permittee shall:
Determine the opacity of emissions during operation from each stack or vent by Reference Method 9 monthly, or more frequently if requested by the Division.

5. **Specific Recordkeeping Requirements:**
Records shall be maintained of Reference Method 9 opacity observations and the dates of observation.

6. **Specific Reporting Requirements:**
See Conditions 5, 6, 7, and 8 in Section F.

7. **Specific Control Equipment Operating Conditions:**
None

FINAL

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SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

07 – (AB001) Abrasive blasting unit

Description: The abrasive-blasting unit uses steel shot to blast railcars prior to surface coating. Emissions are routed through a baghouse with 99.5% control efficiency for particulate matter.
Construction commenced: 1987

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations.

1. **Operating Limitations:**
Maximum steel shot usage shall not exceed 300 lbs/hour and 600 tons/year.

2. **Emission Limitations:**

4. **Specific Monitoring Requirements:**
After the initial source testing to establish compliance with the PM limit at 20% opacity, the permittee shall provide reasonable assurance that the visible emission limitations continue to be met by:

Determining the opacity of emissions weekly during operation from each stack or vent by observation or more frequently if requested by the Division. If abnormal visible emissions are seen, the permitee shall inspect the abrasive blasting equipment and baghouse to determine the cause of the emissions. Corrective action shall be taken and the incident recorded. If abnormal visible emissions are seen upon re-start of the abrasive blasting operation, a Method 9 test must be conducted promptly to determine the opacity of the emissions.

5. **Specific Recordkeeping Requirements:**
Records shall be maintained of weekly opacity observations, and any required corrective actions and Method 9 determinations, and the dates of the observations.

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Case Study #2

- Synthetic minor facility
- Source—combustion of diesel fuel
- State—Georgia
- Permit condition—the maximum sulfur content of diesel fuel shall be 0.5-percent sulfur (by weight)

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8. The firing of Diesel Fuel Oil (≤ 0.5% Sulfur by weight) shall be limited in the Boilers EC3, EC4, EC6 and EC7 such that the total consumption of Diesel Fuel Oil (≤ 0.5% Sulfur by weight) shall not exceed 859,000 gallons during any consecutive twelve month period.

9. The firing of Natural Gas shall be limited in Boilers EC3, EC4, EC6, and EC7 such that the total consumption of Natural Gas shall not exceed 105.2 million cubic feet during any consecutive twelve month period.

10. The Permittee shall not operate the following sources in excess of the total hours listed below during any 12 consecutive months:

Source	Hours/12 Consecutive Months
[illegible]	2,080

Monitoring

12. The Permittee shall verify that each shipment of fuel oil received for combustion in Boilers EC3, EC4, EC6 and EC7 is Diesel Fuel Oil (≤ 0.5% Sulfur by weight). Verification shall consist of either of the following:

(1). Fuel oil receipts obtained from the fuel supplier certifying that the oil is Diesel Fuel Oil (≤ 0.5% Sulfur by weight).

Or (2). Analysis of the fuel oil conducted by methods of sampling and analysis which have been specified by the Division.

13. At the request of the Division, the Permittee shall submit a sample of fuel oil for which has been collected using methods approved by the Division.

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Case Study #3

- Synthetic minor facility
- Source—emergency generators
- State—Georgia
- Permit condition—the maximum hours of operation shall not exceed 500 hours per 12 consecutive months.

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DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

22. The Permittee shall maintain a daily operating log for Sources AB1, IC1, IC2, IC3, and IC4 which indicates each time (hr:minutes) that the source is started up or shut down. The log shall be maintained in a form suitable and available for inspection by the Division, and shall be retained for at least five years from the date of last entry.

24. The Permittee shall notify the Division in writing if the hours of operation for IC1 and/or IC2 exceeds 41.66 hours of operation during any calendar month. This notification shall be postmarked the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the fuel quantity limit contained in Condition 10.

25. The Permittee shall notify the Division in writing if the hours of operation for IC3 and/or IC4 exceeds 43.3 hours of operation during any calendar month. This notification shall be postmarked the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the fuel quantity limit contained in Condition 10.

Process and Control Equipment

26. The Permittee shall maintain an inventory of extra filter bags suitable for replacement in each of the baghouses in the event of filter bag failure. This inventory shall amount to not less than 25 percent of the total number of bags contained in each baghouse during normal operation. In the event that the inventory falls below this required level, it shall be replenished within thirty (30) days.

27. The Permittee shall operate and maintain a differential pressure device (manometer) on the baghouse. The pressure drop indicator shall be located in a convenient and clearly visible location.

Case Study #4

- Emissions Unit—Two 10.5-MMBtu/hr natural gas-fired boilers with a common gas meter
- Regulatory Condition—“The permittee shall record and maintain records of the amounts of each fuel combusted during each day.” [ref: 40 CFR 60.48c(g)]

5.A.7 The permittee shall maintain records of any alterations, additions, or changes in equipment or operation.

5.B.1 For Emission Point AA-017 and AA-019, the permittee shall record and maintain records of the amounts of each fuel combusted during each day. (Ref. 40 CFR 60.48c (g))

5.B.3 For emission point AL-001, the permittee shall maintain a logbook containing the monthly total and a 12-month rolling total of the MOGAS throughput in gallons and submit this report in accordance with condition 5.A.4.

5.B.4 For emission point AA-003, the permittee shall monitor and record on a log form the pressure drops of each baghouse on a weekly basis starting on September 1, 1998 and submit this report in accordance with condition 5.A.4.

For emission points AA-017 through AA-019, the permittee shall monitor and submit a report in accordance with condition 5.A.4 containing the quality of fuel for each natural gas-burning unit, or the amount of fuel burned, the heat content and the sulfur content if diesel fuel is burned.

5.B.6 For Emission Point AS-001, the permittee shall demonstrate compliance with the limits in condition 3.B.8 by performing the following:

MONITORING REQUIREMENTS

For Emission Point AS-001, the permittee shall determine the following for each coating and solvent used, utilizing data supplied by the manufacturer or by analysis of each coating and/or solvent using EPA Reference Method 24, 40 CFR 60, Appendix A:

a) Quantity used (gal)

b) The percentage of VOC's by weight

c) The percentage of each Hazardous Air Pollutant (HAP) by weight

d) The density (lbs/gal)

Case Study #4

- Proposed alternative monitoring requirement:
  - Reduce monitoring/recordkeeping frequency from daily to monthly
  - Apportion gas consumption based on hours of operation

Case Study #4

- Conclusion:
  - State agency has incorporated reduced frequency into the revised Title V permit

Maintaining Compliance

Maintaining Compliance

- Conservative may be better
- Compliance certification
- Electronic data management system

Conservative May Be Better

- Overestimating actual emissions may:
  - Minimize compliance effort
  - Provide more defensible emissions (i.e., easier to prove during either an internal or external audit)

Conservative May Be Better

Example:

- VOC emissions less than 100 tons per year
- Facility must account for spray can painting and diesel fuel throughput
- Assume worst-case monthly usage rate

Compliance Certifications

- Annual requirement for Title V permits
- Must be signed by responsible official
- Must address each Title V permit condition

Compliance Assessments

- Provides responsible official with greater degree of assurance
- Provides “fresh look” at each emission unit
- Identifies not only a potential non-compliance issues, but also suggests recommendations to monitoring and recordkeeping

Internal Compliance Certification

- Require contractors to certify their operations to the Air Program Manager
- Delegate responsibility/accountability

Electronic Data Management

- Minimizes compliance effort
- Accurately accounts for usages/emissions from various operations
- Easily calculates annual emissions on 12-month rolling basis
- Saves usage/emission data indefinitely

Compliance Report

for February , 2002

		Permit Condition		Actual Usage		Notification Report Required	Not Compliant
Natural Gas (External Combustion)	<	8.8 MMcf	*per month*	- MMcf		☐	
	<	105.2 MMcf	*12 MonthTotal*	11.8 MMcf			☐
Diesel Fuel (External Combustion)	<	71,583 gal	*per month*	38,503 gal		☐	
	<	859,000 gal	*12 MonthTotal*	298,503 gal			☐
Abrasive Blasting	<	173.3 hours	*per month*	24.0 hours		☐	
	<	2,080 hours	*12 MonthTotal*	292.0 hours			☐
IC1	<	41.66 hours	*per month*	0.3 hours		☐	
	<	500.00 hours	*12 MonthTotal*	5.67 hours			☐
IC2	<	41.66 hours	*per month*	0.8 hours		☐	
	<	500.00 hours	*12 MonthTotal*	23.73 hours			☐
IC3	<	43.30 hours	*per month*	0.4 hours		☐	
	<	520.00 hours	*12 MonthTotal*	5.20 hours			☐
IC4	<	43.30 hours	*per month*	0.4 hours		☐	
	<	520.00 hours	*12 MonthTotal*	5.25 hours			☐
VOC	<	8.33 tons	*per month*	1.39 tons		☐	
	<	100.00 tons	*12 MonthTotal*	16.11 tons			☐
Individual HAP	<	0.83 tons	*per month*	0.24 tons		☐	
	<	10.00 tons	*12 MonthTotal*	2.88 tons			☐
Total HAPs	<	2.08 tons	*per month*	0.51 tons		☐	
	<	25.00 tons	*12 MonthTotal*	5.96 tons			☐

Note:
100 cans of Aerosol Paint have been included for miscellaneous surface coating at Rice Yard.
VOC emissions include emissions from 2 million gallons of diesel fuel throughput.

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Summary

- Always maintain an updated emissions inventory
- Conduct annual regulatory assessment
- Review draft permit, especially monitoring requirements
- Suggest alternative monitoring requirements
- Monitoring requirements must be evaluated on a case-by-case basis
- ***Minimize the compliance effort***

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